



IPS e.max[®]

ZirCAD Prime Redefining zirconia

**All ceramic,
all you need.**

ivoclar[®]
vivadent[®]
passion vision innovation

A new era in zirconia technology

IPS e.max® ZirCAD Prime is redefining zirconia. The revolutionary material ensures exceptional quality and esthetics and covers all dental indications – ranging from single tooth crowns to 14-unit bridges – and it accommodates a wide array of processing techniques. IPS ZirCAD Prime is the “One-Disc Solution”: It produces first-class results and simultaneously optimizes the efficiency and profitability of dental laboratories.

Gradient Technology (GT), which is used in the production of IPS e.max ZirCAD Prime, represents a new, unique type of manufacturing technique. In this step, the high-strength raw material 3Y-TZP and the highly translucent raw material 5Y-TZP are combined in a very special way.



High-end esthetics

Comparable to
lithium disilicate glass-ceramics

All indications

From crowns to 14-unit bridges
Flexural strength¹: 1200 MPa
Fracture toughness²: > 5 MPa · m^{1/2}



Gradient Technology

New, unique
manufacturing technique

All processing techniques

Maximum possibilities:
staining, cut-back, layering and
infiltration technique

¹ Typical mean value of the biaxial flexural strength (dentin), R&D Ivoclar Vivadent AG, Schaan, Liechtenstein

² Measurement of the fracture toughness according to the Vickers hardness test (dentin), R&D Ivoclar Vivadent AG, Schaan, Liechtenstein (2018)

A man with brown, wavy hair and a light beard is shown in profile, looking down at a white, circular zirconia disc he is holding in his right hand. The disc has a complex, multi-lobed internal structure. The background is a blurred dental laboratory setting with white equipment.

IPS e.max[®] ZirCAD Prime

The fascinating zirconia

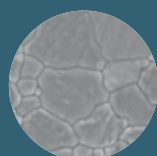
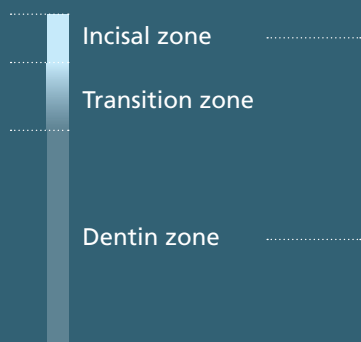
Available in
16 A–D and 4 BL shades

Discs measuring 98.5 mm in diameter
and 16 and 20 mm in thickness

GT GRADIENT TECHNOLOGY

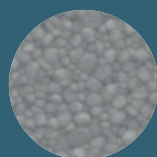
The new, unique Gradient Technology (GT) is at the heart of IPS e.max ZirCAD Prime.

It involves three innovative processing steps which allow the two raw materials 3Y-TZP and 5Y-TZP to be combined in order to produce the exceptional properties of this revolutionary material.



5Y-TZP

Highly translucent conditioned zirconia in the incisal zone
650 MPa¹



3Y-TZP

Very strong conditioned zirconia in the dentin zone
1200 MPa¹

1 Optimized conditioning

Ingenious powder conditioning adjusts the sintering kinetics and allows the raw materials 3Y-TZP and 5Y-TZP to be optimally combined. This results in a uniform shrinkage behaviour, which ensures outstanding accuracy of fit.



¹ Typical mean value of the biaxial flexural strength, R&D Ivoclar Vivadent AG, Schaan, Liechtenstein

2 Innovative **filling** technology

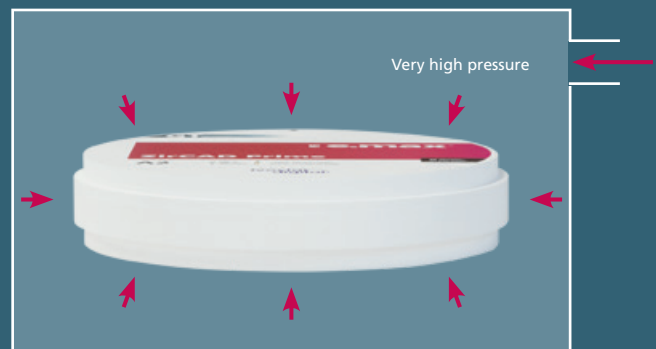
The state-of-the-art filling technology used in conjunction with the two raw materials 3Y-TZP and 5Y-TZP is responsible for producing a continuous, seamless progression of the shade and translucency within the material. Consequently, the restorations made with these zirconia discs demonstrate high-end esthetics.



Continuous, seamless progression: IPS e.max ZirCAD Prime*

3 Top-quality **manufacturing**

In the processing step of Cold Isostatic Pressing (CIP), the discs are densely compacted from all sides simultaneously. This improves the microstructure of the material and optimizes its translucent properties. Furthermore, it allows the material to be sintered at shorter intervals.



Cold Isostatic Pressing (CIP)

GT is the key to high-end esthetics, outstanding accuracy of fit and efficient processing.

* Thickness of test specimens: 0.7 mm, R&D Ivoclar Vivadent AG, Schaan, Liechtenstein (2018)

High-end esthetics

The first-class esthetic appearance of IPS e.max ZirCAD Prime is characterized by a genuine continuous and seamless progression of shade and translucency and by optimized translucent properties.

As a result, natural-looking restorations can be created without having to do any characterization work. These impressive outcomes are also due to the precise shading of the materials.

Continuous and seamless shade
progression and optimized
translucency





IPS e.max ZirCAD Prime, monolithic anterior crown, stained and glazed



"IPS e.max ZirCAD Prime is simply great. The material combines esthetics with functionality in the most impressive way. It gives me virtually unlimited possibilities."

M. Temperani
Italy

All indications

As a result of its high strength, IPS e.max ZirCAD Prime covers a wide array of indications – ranging from single tooth crowns to 14-unit bridges. Furthermore, the material can be applied in very thin layers on minimally prepared tooth structure.



Full contour crowns



Full contour 3-unit bridges



Full contour 4-unit or multiple unit bridges with max. 2 pontics



Crown copings



3-unit or multiple unit bridge frameworks with max. 2 pontics



650 MPa (5Y-TZP)

flexural strength¹
in the incisal zone – where a high level of translucency and high strength is desired

Continuous, seamless transition
due to Gradient Technology (GT)

1200 MPa (3Y-TZP)

flexural strength¹
in the dentin zone – where the most force is exerted on the bridge restoration and very high strength and natural-looking opacity is required

> 5 MPa · m^{1/2}
fracture toughness²

¹ Typical mean value of the biaxial flexural strength, R&D Ivoclar Vivadent AG, Schaan, Liechtenstein

² Measurement of the fracture toughness according to the Vickers hardness test (dentin), R&D Ivoclar Vivadent AG, Schaan, Liechtenstein (2018)

All processing techniques

IPS e.max ZirCAD Prime offers a maximum of flexibility and possibilities in manufacturing ceramic restorations. The material accommodates the following techniques:

- Staining technique
- Cut-back technique
- Layering technique
- Infiltration technique

IPS e.max ZirCAD Prime is compatible with the IPS e.max system

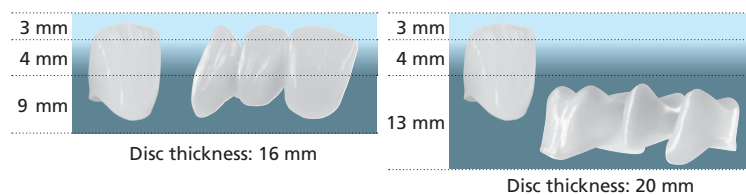


Versatile options

Intelligent disc design

The incisal and transition zones of the IPS e.max ZirCAD Prime discs are always the same height, regardless of the disc thickness. The height of the dentin zone, however, differs depending on the disc thickness. Full contour restorations and framework structures can be positioned as desired within the disc with the help of the CAM software. Consequently, reproducible esthetic results are achieved, independent of the disc thickness.

Incisal zone – 650 MPa¹
Transition zone
Variable
dentin zone – 1200 MPa¹



Economic sintering

Time-saving, flexible sintering programs heighten the efficiency of routine dental lab work. Restorations made of IPS e.max ZirCAD Prime are fired using high-speed sintering programs. Furthermore, all-in-one sintering programs in which different IPS e.max ZirCAD materials are sintered together can be used.

2 h 26 min

ZirCAD Prime

Speed
sintering program²
for single tooth crowns

4 h 25 min

ZirCAD All-in-one

Speed
sintering program²
for single tooth crowns
and up to 3-unit bridges

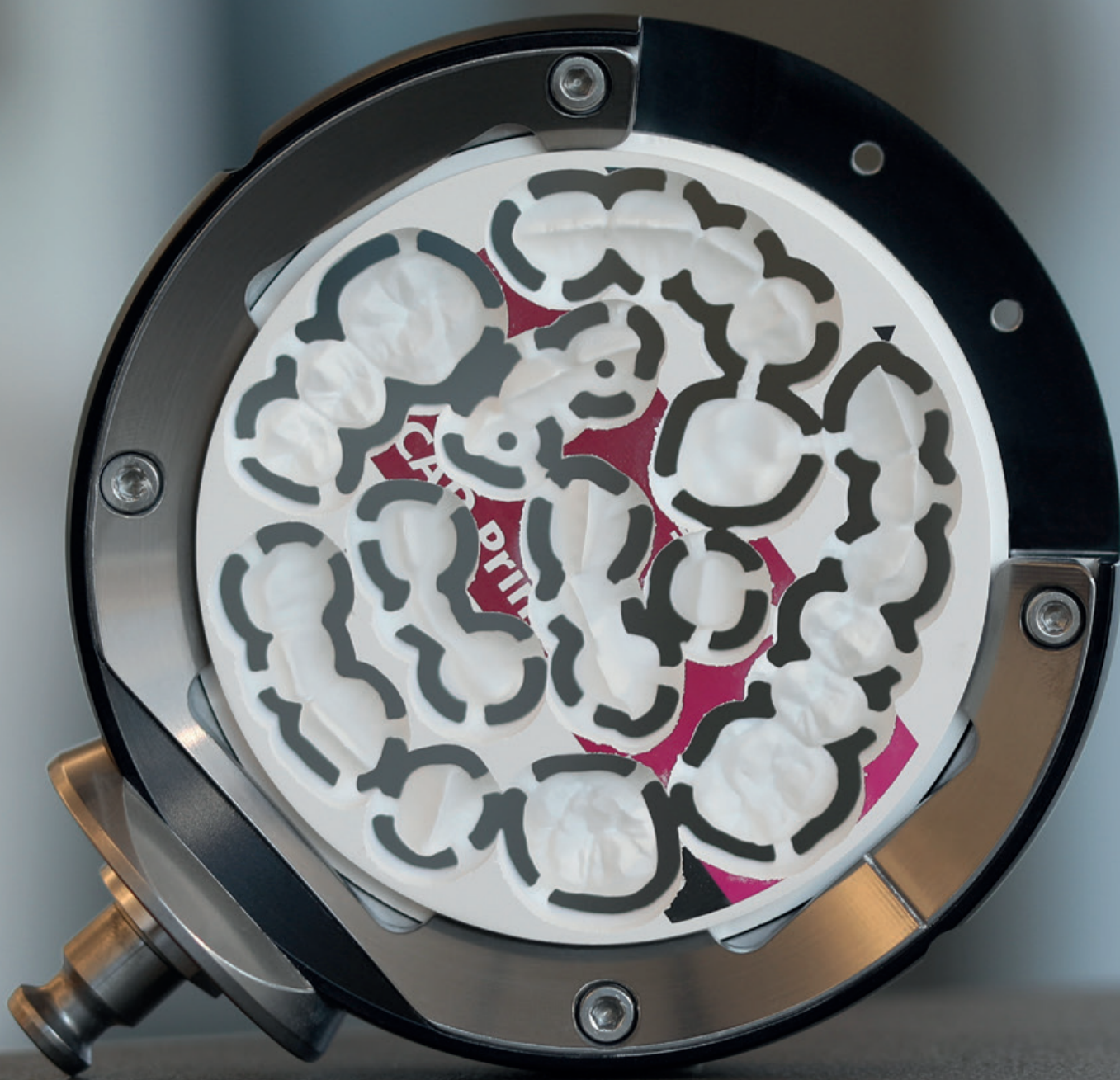
9 h 50 min

ZirCAD All-in-one

Standard
sintering program²
for single tooth crowns
and up to 14-unit bridges

¹ Typical mean value of the biaxial flexural strength, R&D Ivoclar Vivadent AG, Schaan, Liechtenstein

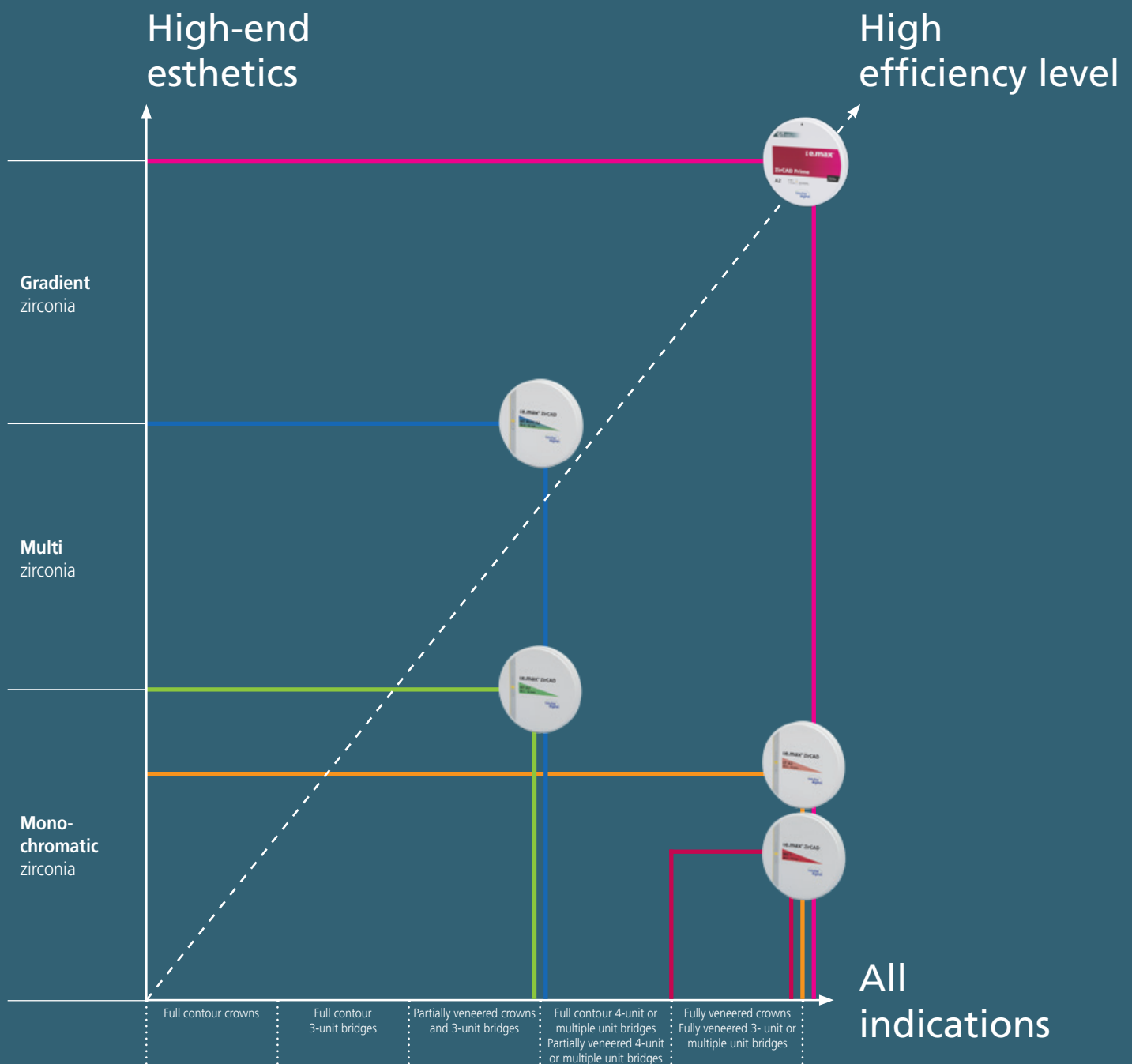
² In the Programat® S1 1600



IPS e.max® ZirCAD Prime
The One-Disc Solution

One material that combines everything

As a "One-Disc Solution", IPS e.max ZirCAD Prime meets the requirements of modern all-ceramic restorations. The result: satisfied customers, greater efficiency in everyday laboratory work and a reduced inventory.





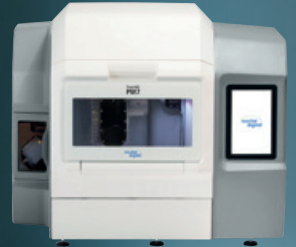
IPS e.max ZirCAD Prime:
The top-ranking product of the
IPS e.max zirconia portfolio

Outstanding interplay for **impressive results**

1 Simplified selection



The IPS e.max Shade Navigation App (SNA) assists you in finding the most suitable shade and translucency – for reliable and relaxed working.



7 Appropriate cementation



SpeedCEM® Plus is a self-adhesive, self-curing composite cement with optional light-curing properties. It offers the optimum combination of high performance and ease of use: ideal for zirconia restorations in combination with Ivoclean®, the universal cleaning paste.

Finding your way out of the cements maze:
www.cementation-navigation.com

6 Precision characterization

The stains and glazes of the IPS Ivocolor® assortment enable you to customize all IPS ceramic materials.



- Simplified handling due to innovative paste formulation
- High gloss at a firing temperature of only 710 °C
- Fluorescence with IPS Ivocolor Glaze Fluo

Fast, exact milling

Coordinated with IPS e.max ZirCAD:
IPS e.max ZirCAD is efficiently and
rapidly milled in the PrograMill PM7
to achieve high-precision results.

3 Creative infiltration



The A-D Colouring and Effect Shade
liquids ensure that a high level of
individual design can be achieved
before sintering.

4 Precise sintering



The Programat® S1 1600 unites impressive
esthetics and efficiency – for example,
with the Speed sintering programs and
the Programat Dosto Tray sintering table.
The sintering programs are coordinated
with IPS e.max ZirCAD.

5 Perfect ceramic layers

/glazing



IPS e.max Ceram is a versatile layering
ceramic featuring intuitive modelling
properties and excellent stability.

- Consistent layering scheme
- Harmonious shade adjustment
- Excellent firing behaviour

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